the system should fulfil. Let it be borne in mind by any town contemplating the water system, that an error in design, like the bad foundation to a structure, is often very difficult to remedy.

As to the disposal of the sewage-matter, opinion is to some extent divided. The plan most in vogue is to discharge the sewage-matter into some stream, which may thus be regarded, in one sense, as the continuation of the sewer.

The pollution of the stream is not found to extend many miles below the mouths of the sewers. In the case of tidal waters, however, the refuse is empted near the city, is floated up and down the stream past it, giving anything but an air of cleanliness to the eye or satisfaction to the nose. Another plan consists in passing the sewage at intervals from large tanks, where it is collected, through hundreds of earthenware pipes, loosely jointed, placed about one foot below the surface of the ground and in parallel rows. The sewage leaks through the joints into the surrounding soil, which purifies it by absorption and oxidation.

By distributing the sewage over a sufficient extent of surface, it is found that the soil does its work perfectly; being aided, moreover, by the growing vegetation, taking up much of the sewage through its roots. The purification, though, is principally due to the earth, which has the property of absorbing and condensing gases, such as air, &c.; so that each little particle of earth is surrounded with condensed oxygen, which acts upon the sewage-matter the instant it comes in contact with it, and oxidizes the organic part,—throwing it off into the air,—not as poisonous effluvia, which is the result of decomposition with a limited amount of oxygen, as in close drains, but as harmless aqueous vapor, carbonic acid and ammonia. The amount of oxygen absorbed by the soil is not large, but it seems to be replaced as rapidly as it enters into combination, and thus to furnish an indefinite supply to the matter with which it combines. (See Johnson's "How Crops Feed," pp. 218, 168, etc.)